Growing Healthy Fruits and Vegetables in Small Spaces
By: Bonnie J. Bartos

One year after renovating the house I grew tired of the overgrowth of weeds in the egress window well. The extensive growth of large unwanted plants in the new double egress window became challenging to clear. A full crop of invading growth to take over again in less than two weeks. After becoming fed up with this process, the goal became finding a workable solution for controlling overgrowth. The topic came up in a gardening conversation with a friend and, I said, "It's like a greenhouse in there – light, soil, bubble-dome well cover, and moisture from the condensate on the inside of the window - that's the answer. The egress well is a perfect greenhouse!"

The fruitful (pun intended) plan began…development of the egress greenhouse! Consulting with gardening friends regarding growth patterns and plant options resulted in someone advising the use of a soil test kit. Test kits provided information on what plants the soil would accommodate in the areas intended for gardening. Soil testing revealed the egress well soil had the appropriate composition suitable for growth of tomatoes, peas, and cucumbers. The small space, roughly 4.5 feet long x 3 feet wide x 4.5 feet high, seemed less practical for cucumber growth in the enclosure. Addition of weed barrier cloth and additional soil readied the area for seeds and seedlings. After planting some snap pea seeds and tomato starters I had grown, it was time to watch, water, and wait.


Figure 1: first snap pea plant growth.


Figure 2: Tomato plants after two weeks of growth

Three healthy tomato plants and numerous snap pea plants were the product of the egress window well greenhouse. Monitoring the growth and fruit/veggie production throughout the summer created excitement

and anticipation of the results. I was surprised that the output of the egress crop tasted much better than the yard tomatoes! Another fun detail about the egress production is that the yield was three times that of the yard tomato plants grown on the same side of the house.

Plants proliferated in the egress due to heat from the well cover and as well as reflected light from the egress window of the house. It only took a week for the peas to sprout. Five days later they had grown to four times their height noted in the first photo! The snap peas were so good that was I never able to get a photo of them. They were consumed shortly after each harvesting and washing. A collapsed, thin tomato cage provided an improvised trellis. This framework worked well for the pea plant vining. Snap peas grew abundantly throughout the summer and fall.

The tomato plants rapidly proliferated and filled out after reaching their maximum heights at the point of contact with the bubble-dome well cover. Reaching the 4.5-foot height in 4 weeks generated concern that the spindly plants would not be healthy enough to produce much fruit. The plants looked so thin and did not have many leaves or blossoms at that point.

How many tomatoes would the plants produce throughout the season? How could the growth be enhanced without the use of fertilizer? What a joy it was to view the vibrant green tomato plants as they grew into healthy, full plants with numerous buds. Thoughts of ways to extend the growing season in the egress window well began to swirl in my head. How long would I be able to stretch this egress gardening process? Could I get fresh tomatoes as late as November or December?

Tomatoes developed and ripened through November of the first year of egress gardening. It was a cold and icy fall that year, and the best approach was to harvest everything before a projected freeze in late November. The fruit was allowed to ripen in a paper bag. The bag allowed slow ripening – permitting enjoyment of fresh tomatoes through December!

Figure 3: Ripening of part of the initial yield of first year's plants.

Stronger tomato cages, used for the second through the sixth year of the experiment, gave improved results. These cages offered much better growth support and protection than the thin wire cages or PVC pipe with ties. No fertilizer use occurred for the plants or soil. A dark barrier cloth just below the topsoil helped limit weed growth. Each year new varieties of tomatoes were grown in the egress garden.

Cherry tomatoes and Sunshine Yellow Tomatoes seemed to have the best growth. The tomato plants consistently grew faster in the egress space versus the yard plants. There was much higher yield from the egress plants than the production from the yard plants. Each branch of the egress window plants had a cluster of 12-20 flowers. The fruit was fantastic!

Best lessons/fun facts learned from years of experimenting with egress window gardening included:

- Weeding was limited.
- General care, watering, and harvesting could be done standing near the egress and reaching in or by climbing into the well. Getting into the well was required after moderate growth of the plants.
- Covering the plastic well cover with different thicknesses of blankets resulted in varying extensions of productivity and harvest duration.
- It was a fun way to use a space infrequently used for its designated purpose (evacuation)! Checking with local authorities to make sure that growth of fruits and vegetables in the egress would not be against any city regulations resulted in approval of the activity.
- Time of earliest fruit availability: Late June
- Latest harvest: December 30th (quite a record in Minnesota)! Once again, I picked the green tomatoes and let them ripen in a bag – extending enjoyment of the fresh fruit through February!
- Listening to co-workers joke about my egress window greenhouse experiment and soil test kit use was amusing. However, I had the last laugh as they stared at my beautiful, healthy, dark red and vibrant orange tomato with perfectly green snap-pea laden salads through mid-summer, fall and most of the winter.
- Thoughts about an indoor garden modification for other areas of “wasted space” stirred in my brain. Small space areas were too tiny to use for many things, though they resulted in excellent herb and windowsill garden spaces. Egress window gardening and windowsill green space creation was a fun opportunity to bring more life and color into the house. Patio gardening with single plant pots or planter boxes also works well in small spaces.
- The yield of tomatoes and peas was INCREDIBLE!


The final photos show part of the production from the egress window garden. Photos were arranged side-by-side to reveal the full spread. The harvest appearing in the images reveals the third batch like this within the week! The most significant amount of tomatoes ever obtained from the egress was 48 pounds. Tracking weights of each picking provided information on types of plants with the best yield.

I have missed this double egress garden ever since I moved away from the house three years ago. Each spring I consider and act on options for indoor and outdoor gardening. Though I do not have egress windows where I currently reside, I now enjoy hydroponic tomato gardening. The hydroponic tomato plants in the house at this time were planted 418 days ago and continue to provide fruit year-round. Explore your options for indoor gardening spaces and enjoy the healthy additions to your visual intake as well as your food palate!